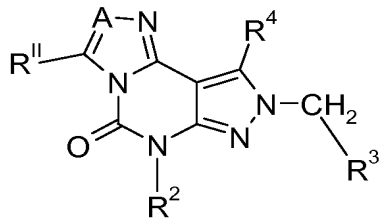
Application No.: 10/567,797
Reply to Office Action of: 03/22/2007
Amendment Dated: 04/23/2007

In the Claims

The listing of claims will replace all prior versions and listings of claims in the application.

Listing of claims

1. (Currently amended) A compound having the structural formula (I):



(I)

wherein,

A is N or CR^I;

R^I is, independently at each instance, H, halogen, cyano, nitro, ~~optionally substituted~~ alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl, ~~optionally substituted~~ alkoxy, ~~optionally substituted~~ amino, ~~optionally substituted~~ carboxy, ~~optionally substituted~~ alkylcarbonyl, ~~optionally substituted~~ alkylcarbamide, ~~optionally substituted~~ alkylsulfide, ~~optionally substituted~~ alkylsulphone, ~~optionally substituted~~ alkylsulfoxide, ~~optionally substituted~~ sulphamide;

R^{II} is, independently at each instance, H, halogen, cyano, nitro, ~~optionally substituted~~ alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl, ~~optionally substituted~~ alkoxy, ~~optionally substituted~~ amino, ~~optionally substituted~~ carboxy, ~~optionally substituted~~ alkylcarbonyl, ~~optionally substituted~~ alkylcarbamide, ~~optionally substituted~~ alkylsulfide, ~~optionally substituted~~ alkylsulphone, ~~optionally substituted~~ sulfoxide, ~~optionally substituted~~ sulphamide;

R^2 is H, ~~optionally substituted~~ alkyl, wherein said alkyl is optionally substituted with 0, 1, 2 or 3 substituents selected from heterocycle, $S(=O)_nR^c$, $-S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl, ~~optionally substituted~~ alkylcycloalkyl, wherein said alkylcycloalkyl is optionally substituted with 0, 1, 2 or 3 substituents selected from heterocycle, $S(=O)_nR^c$, $S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl, ~~optionally substituted~~ cycloalkyl, ~~optionally substituted~~ cycloalkenyl, ~~optionally~~

~~substituted~~ cycloalkynyl, ~~optionally substituted~~ aryl, ~~optionally substituted~~ alkoxy, ~~optionally substituted~~ amino, or ~~optionally substituted~~ heterocycle;

R^3 is a monocyclic or bicyclic, saturated or unsaturated, ring system comprising 0, 1, 2 or 3 heteroatoms independently selected from N, O, or S, the ring being substituted by 0, 1, 2 or 3 substituents selected from =O, halogen, $-OR^a$, C_{1-6}alkyl, C_{1-6}haloalkyl, -CN, nitro, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-NR^aR^a$, $-NHC(=O)R^a$, $N=NR^a$, aminocarbonyl, phenyl, benzyl; or R^3 is represented by -Het, -Het-Het, R^5,$-R^5$-Het, -Het-R^5, -Het-O-R^5, $-R^5$-R^5, $-R^5$-OR^5;

R^4 is a monocyclic or bicyclic, saturated or unsaturated, ring system, or a vicinal-fused derivative thereof, which may contain from 5 to 12~~, preferably 5 to 10,~~ ring atoms, 0, 1, 2, 3 or 4 of which are heteroatoms independently selected from N, O, or S, the ring system being substituted by 0, 1, 2 or 3 substituents selected from $B(OH)_2$, vicinal $-OCH_2CH_2O-$, vicinal $-OC_{1-2}$haloalkylO-, vicinal $-OCH_2O-$, vicinal $-CH_2OCH_2O-$, =O, halogen, $-R^bOR^a$, $-SR^a$, $-OR^a$, C_{1-6}alkyl, C_{1-6}haloalkyl, -CN, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-NR^aR^a$, $-NHC(=O)R^a$, $-NHC(=O)OR^a$, $N=NR^a$, NO_2, $-C(=O)NR^aR^a$, $-C(=O)NR^aOR^a$, $-C(=O)NR^a(R^bNR^aR^a)$, $-C(=O)NR^a(R^bOR^a)$, $-C(=O)NR^a(R^bS(=O)_nR^a)$, $-C(=O)NR^a(R^bHet)$, $-C(=O)OR^a$, $-OC(=O)R^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-C(=O)R^bNR^aR^a$, $-C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-S(=O)_2NR^aR^a$, $-NR^aS(=O)_2R^a$, $-S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, $-S(=O)_2NR^a(R^bC(=O)OR^a)$, aminocarbonyl, phenyl, benzyl; or R^4 is represented by $-(CH_2)_nR^5$-Het, $-(CH_2)_nR^d$, -Het, -Het-Het, R^5, $-R^5$-Het, -Het-R^5, -Het-OR^5, R^5-R^5, or $-R^5$-OR^5; or R^4 is represented by C_{1-6}alky, $-NC_{1-6}$alkyl, or $-N(C_{1-6}alkyl)_2$ wherein the C_{1-6}alkyl, $-NC_{1-6}$alkyl, $-N(C_{1-6}$alkyl) are substituted by 0, 1 or 2 substituents selected from R^a, OR^a, halogen or phenyl wherein R^4 is not $-(CH_2)_zCH_3$, $-(CH_2)_zCH_2OH$, $-(CH_2)_zCO_2H$, or $-(CH_2)_zCO_2C_{1-6}$alkyl wherein z is 1,2,3,4,5, or 6;

R^5 is independently at each instance, phenyl substituted by 0, 1, 2, or 3 groups selected from halogen, C_{1-6}haloalkyl, $-OC_{1-6}$haloalkyl, C_{1-6}alkyl, -CN, nitro, $-OR^a$, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-R^bOR^a$, $-SR^a$, $-C(=O)NR^aR^a$, $-C(=O)NR^aOR^a$, $-C(=O)NR^aR^bNR^aR^a$, $-C(=O)NR^aR^bOR^a$, $-C(=O)NR^aR^bS(=O)_nR^a$, $-C(=O)NR^aR^bHet$, $-C(=O)OR^a$, $-OC(=O)R^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-C(=O)R^bNR^aR^a$, -

$C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-S(=O)_2NR^aR^a$, $-NR^aS(=O)_2R^a$, $-S(=O)_2NR^aR^bC(=O)NR^aR^a$, or $-S(=O)_2NR^aR^bC(=O)OR^a$;

R^a is, independently at each instance, H, C_{1-6}alkyl, $-C(=O)C_{1-4}$alkyl, C_{1-4}haloalkyl, phenyl, benzyl, or 5 or 6-memebered ring, saturated or unsaturated heterocycle containing 1,2,3, or 4 heteroatoms independently selected from N, O or S;

R^b is, independently at each instance, C_{1-6}alkyl, $-C(=O)C_{1-4}$alkyl, C_{1-4}haloalkyl, phenyl, benzyl, or 5 or 6-memebered ring, saturated or unsaturated heterocycle containing 1,2,3, or 4 heteroatoms independently selected from N, O or S;

R^c is C_{1-6}alkyl, C_{1-4}haloalkyl, phenyl or benzyl;

R^d is phenyl substituted by 0, 1 or 2 groups selected from -CN, halogen, nitro, C_{1-6}alkyl, C_{1-4}haloalkyl, -OH, $-OR^c$, $-NR^aR^a$, $-S(=O)_nR^c$, $-C(=O)NR^aR^a$, $-C(=O)OR^a$, $-NR^aC(=O)R^a$, $-OC(=O)R^a$, $B(OH)_2$, vicinyl $-OCH_2CH_2O-$, vicinyl $-OC_{1-2}$haloalkylO-, vicinyl $-OCH_2O-$, vicinyl $-CH_2OCH_2O-$, phenyl, benzyl and a 5- or 6-membered ring, saturated or unsaturated heterocycle containing 1, 2, 3 or 4 heteroatoms independently selected from N, O, or S;

m is 1, 2 or 3;

n is 0, 1 or 2;

or a pharmaceutically acceptable salt thereof.

2. (Original) A compound as recited in Claim 1 wherein:

A is N or CR^{20} wherein R^{20} is H, halogen, cyano, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl, $-OC_{0-4}$alkyl, and-$N(C_{0-4}$alkyl$)(\ C_{0-4}$alkyl).

3. (Original) A compound as recited in Claim 1 wherein:

R^I is H, halogen, cyano, nitro, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl, $S(=O)_n\ C_{1-4}$alkyl, $-S(=O)_nN(C_{1-4}$alkyl$)_n$, $-OC_{0-4}$alkyl, $-N(C_{0-4}$alkyl$)(\ C_{0-4}$alkyl), $-C(=O)OC_{1-4}$alkyl, $-C(=O)\ C_{0-4}$alkyl, or $-C(=O)N(C_{0-4}$alkyl$)(C_{0-4}$alkyl) where n is 0, 1 or 2.

4. (Original) A compound as recited in Claim 1 wherein:

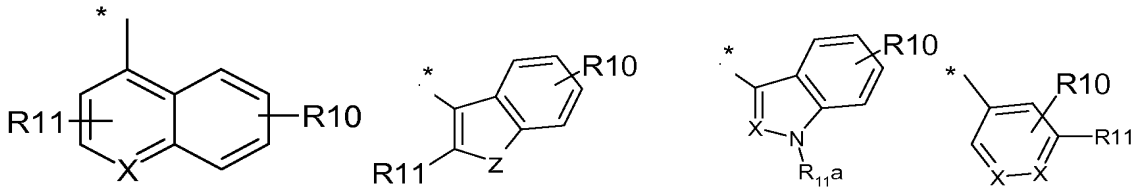
R^{II} is H, halogen, cyano, nitro, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl, $S(=O)_n\ C_{1-4}$alkyl, $-S(=O)_nN(C_{1-4}$alkyl$)_n$, $-OC_{1-4}$alkyl, $-N(C_{0-4}$alkyl$)(\ C_{0-4}$alkyl), $-C(=O)OC_{1-4}$alkyl, $-C(=O)\ C_{0-4}$alkyl, or $-C(=O)N(C_{0-4}$alkyl$)(C_{0-4}$alkyl) where n is 0, 1 or 2.

5. (Cancelled) A compound as recited in Claim 1 wherein:

R^2 is C_{1-6}alkylC_{3-6}cycloalkyl or -C_{1-6}alkyl wherein either is optionally substituted with 0, 1, 2 or 3 substituents selected from Het, $S(=O)_nR^c$, $-S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl and n is 0, 1 or 2.

6. (Original) A compound as recited in Claim 1 wherein:

R^3 is selected from formulas (i), (ii), (iii) or (iv) set forth below:



(i) (ii) (iii) (iv)

wherein * is the location where (i) or (ii) or (iii) or (iv) is attached to structural formula (I), and X is C or N; and Z is O or S, wherein R^{10} is at any position on the ring and R^{10} and R^{11} are independently at each instance H, R^a, halogen, -CN, nitro, OR^a, CF_3, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, $-NR^aC(=O)C_{1-4}$alkyl or $-S(=O)_nR^c$; and wherein R^{11a} is R^a, $-S(=O)_2NR^aR^a$ or $-S(=O)_nR^c$ and n=1 or 2.

7. (Original) A compound as recited in Claim 1 wherein:

R^4 is selected from formulas (a) to (z) or (aa) or (ab) set forth below:

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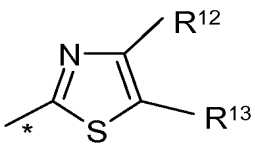

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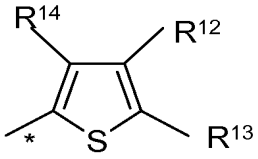
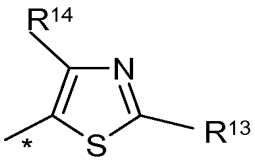


(b)



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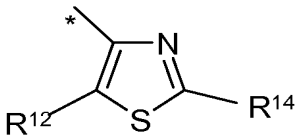

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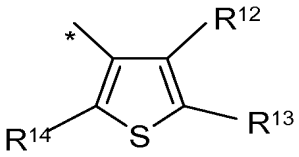

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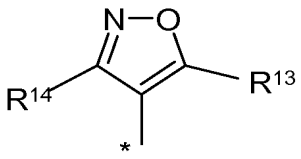

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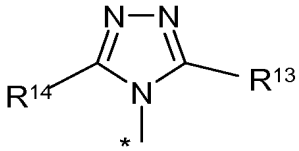

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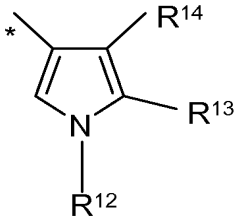

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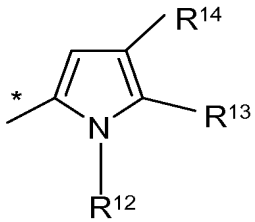

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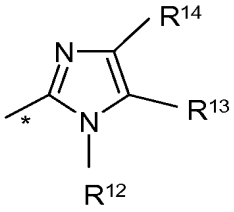

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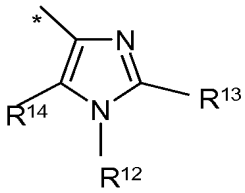

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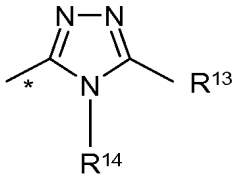

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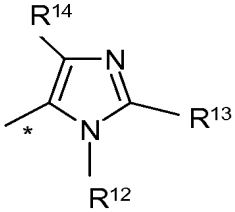

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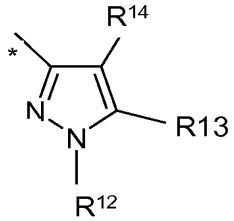

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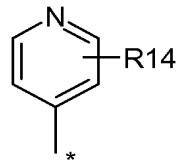

(o)

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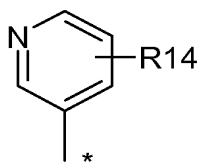

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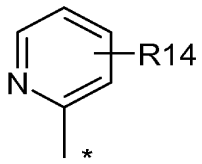

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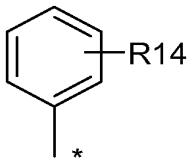
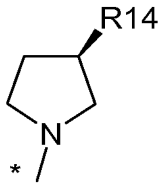


(r)

(s)



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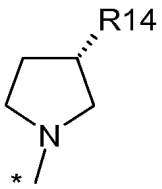

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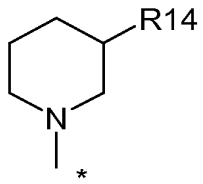

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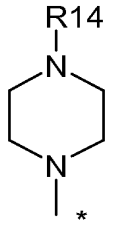

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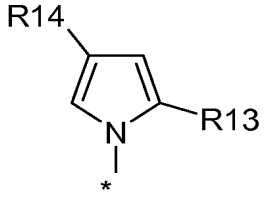

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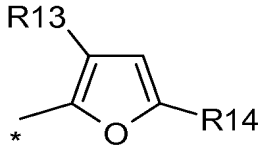

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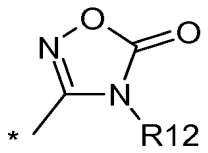

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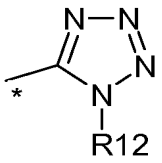
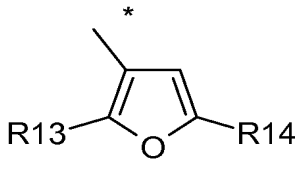


(aa)



(ab)

wherein * is the location wherein R^4 is attached to the ring system and wherein wherein R^{12}, R^{13} and R^{14} are each independently represented by H, Het, $C_{1\text{-}6}$alkyl, -CN, -NR^aR^a, -nitro, -$C(=O)R^a$, -$C(=O)NR^aR^a$, -$C(=O)NR^aS(=O)_2R^a$, -$C(=O)NR^a$-Het, -

$C(=O)NR^aNR^aR^a$, $-C(=O)NR^a(R^bNR^aR^a)$, $-C(=O)NR^a(R^bOR^a)$, $-C(=O)NR^a(R^bS(=O)_2R^a)$, $-C(=O)NR^aR^b$Het, $-C(=O)NR^aOR^a$, $-C(=O)R^bNR^aR^a$, $-C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-C(=O)OR^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-OC(=O)R^a$, $-C(=O)R^a$-SR^a, =S, $-NR^aC(=O)R^a$, $-NR^aC(=O)OR^a$, $-NR^aS(=O)_2R^b$, $-C(=NOR^a)R^a$, $-S(=O)_2R^a$, $-S(=O)_2NR^aR^a$, $-S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, or $-S(=O)_2NR^a(R^bC(=O)OR^a$.

8. (Original) A compound as recited in Claim 1 wherein:

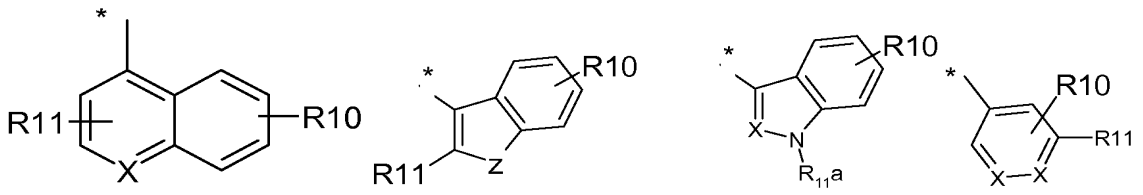
A is N or CR^{20} wherein R^{20} is H, halogen, cyano, $C_{1\text{-}6}$alkyl, $C_{1\text{-}6}$alkenyl, $C_{1\text{-}6}$alkynyl, $-OC_{0\text{-}4}$alkyl, $-N(C_{0\text{-}4}alkyl)(C_{0\text{-}4}alkyl)$;

R^I is H, halogen, cyano, nitro, $C_{1\text{-}6}$alkyl, $C_{1\text{-}6}$alkenyl, $C_{1\text{-}6}$alkynyl, $S(=O)_n C_{1\text{-}4}$alkyl, $-S(=O)_nN(C_{1\text{-}4}alkyl)_n$, $-OC_{0\text{-}4}$alkyl, $-N(C_{0\text{-}4}alkyl)(C_{0\text{-}4}alkyl)$, $-C(=O)OC_{1\text{-}4}$alkyl, $-C(=O)C_{0\text{-}4}$alkyl, or $-C(=O)N(C_{0\text{-}4}alkyl)(C_{0\text{-}4}alkyl)$ where n is 0, 1 or 2;

R^{II} is H, halogen, cyano, nitro, $C_{1\text{-}6}$alkyl, $C_{1\text{-}6}$alkenyl, $C_{1\text{-}6}$alkynyl, $S(=O)_n C_{1\text{-}4}$alkyl, $-S(=O)_nN(C_{1\text{-}4}alkyl)_n$, $-OC_{0\text{-}4}$alkyl, $-N(C_{0\text{-}4}alkyl)(C_{0\text{-}4}alkyl)$, $-C(=O)OC_{1\text{-}4}$alkyl, $-C(=O)C_{0\text{-}4}$alkyl, or $-C(=O)N(C_{0\text{-}4}alkyl)(C_{0\text{-}4}alkyl)$ where n is 0, 1 or 2;

R^2 is $-CH_2CH_2CH_3$, $-CH_2$-cyclopropyl, $-CH_2CH(CH_3)_2$, $-CH_2CH_2CH_2F$, $-CH_2$-cyclobutyl, $-CH_2C(CH_3)_3$, $-CH_2CH_2CH(CH_3)_2$, $-CH_2CF_3$, $-CH_2$-methylphenyl, $-CH_2$-phenol, $-CH_2$-(3,5-dimethylisoxazol-4-yl), $-CH_2$-S-phenyl, $-CH_2$-phenylcarboxyl, or $-CH_2SCF_3$;

R^3 is selected from formulas (i), (ii), (iii) or (iv) set forth below:



wherein * is the location where (i) or (ii) or (iii) or (iv) is attached to structural formula (II), and X is C or N; and Z is O or S, wherein R^{10} is at any position on the ring and R^{10} and R^{11} are independently at each instance H, R^a, halogen, -CN, nitro, OR^a, CF_3, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1\text{-}4}$alkyl, $-NR^aC(=O)C_{1\text{-}4}$alkyl or $-S(=O)_nR^c$; and wherein R^{11a} is R^a, $-S(=O)_2NR^aR^a$ or $-S(=O)_nR^c$ and n=1 or 2;

R^4 is selected from formulas (a) to (z) or (aa) or (ab) set forth below:

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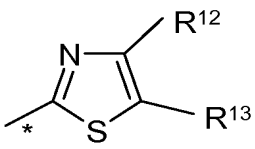
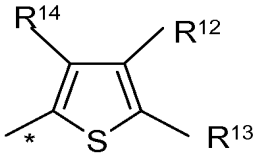
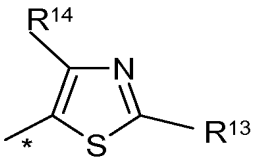


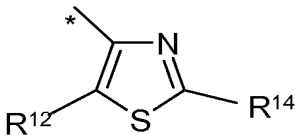
(a)



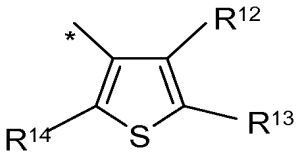
(b)



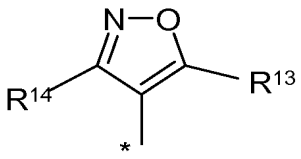
(c)



(d)



(e)



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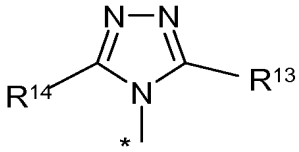
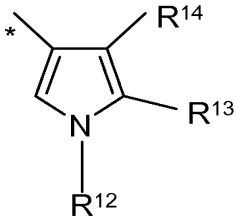
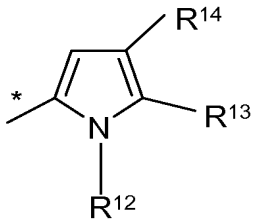


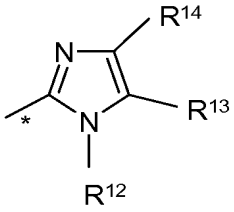
(g)



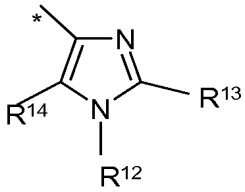
(h)



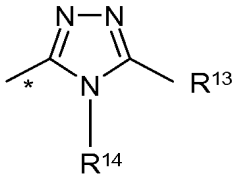
(i)



(j)



(k)



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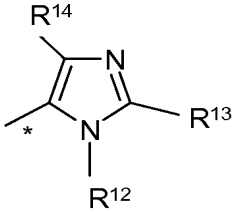

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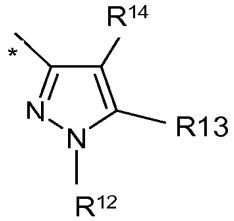
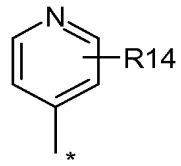


(n)



(o)

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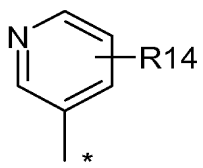
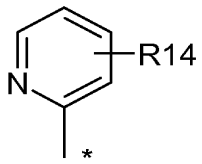
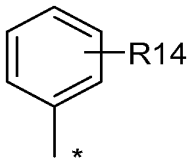


(p)

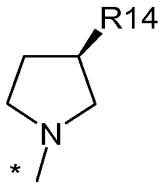


(q)

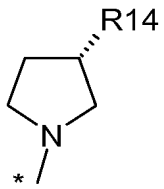


(r)

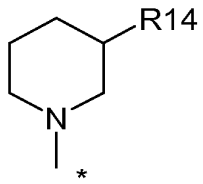
(s)



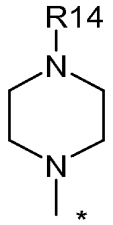
(t)



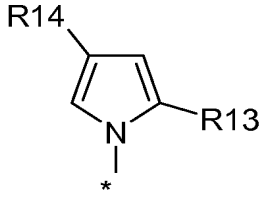
(u)



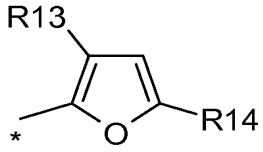
(v)



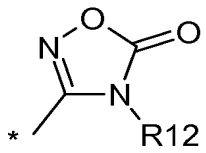
(w)



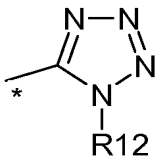
(x)



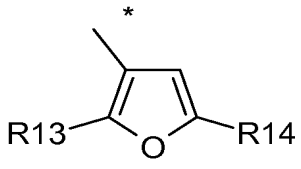
(y)



(z)



(aa)



(ab)

wherein * is the location wherein R^4 is attached to the ring system and wherein wherein R^{12}, R^{13} and R^{14} are each independently represented by H, Het, $C_{1\text{-}6}$alkyl, -CN, -NR^aR^a, -nitro, -$C(=O)R^a$, -$C(=O)NR^aR^a$, -$C(=O)NR^aS(=O)_2R^a$, -$C(=O)NR^a$-Het, -

$C(=O)NR^aNR^aR^a$, $-C(=O)NR^a(R^bNR^aR^a)$, $-C(=O)NR^a(R^bOR^a)$, $-C(=O)NR^a(R^bS(=O)_2R^a)$, $-C(=O)NR^aR^b$Het, $-C(=O)NR^aOR^a$, $-C(=O)R^bNR^aR^a$, $-C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-C(=O)OR^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-OC(=O)R^a$, $-C(=O)R^a$-SR^a, =S, $-NR^aC(=O)R^a$, $-NR^aC(=O)OR^a$, $-NR^aS(=O)_2R^b$, $-C(=NOR^a)R^a$, $-S(=O)_2R^a$, $-S(=O)_2NR^aR^a$, $-S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, or $-S(=O)_2NR^a(R^bC(=O)OR^a$.

9. (Previously presented) A compound of claim 1 selected from:
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-5-oxo-6,8-dihydro-5H-pyrazolo[4,3-e][1,2,4]triazolo[4,3-c]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-methyl-5-oxo-6,8-dihydro-5H-pyrazolo[4,3-e][1,2,4]triazolo[4,3-c]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-(dimethylamino)-5-oxo-6,8-dihydro-5H-pyrazolo[4,3-e][1,2,4]triazolo[4,3-c]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
5-[3-amino-8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-5-oxo-6,8-dihydro-5H-pyrazolo[4,3-e][1,2,4]triazolo[4,3-c]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-5-oxo-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-methyl-5-oxo-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile;
8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-9-(1-methyl-1H-imidazol-5-yl)-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-5-one;
8-{[5-chloro-1-(methylsulfonyl)-1H-indol-3-yl]methyl}-6-(cyclopropylmethyl)-9-(1-methyl-1H-imidazol-5-yl)-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-5-one;
8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-9-[1-methyl-4-(methylsulfonyl)-1H-pyrrol-2-yl]-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-5-one;
5-[8-{[5-chloro-1-(methylsulfonyl)-1H-indol-3-yl]methyl}-6-(cyclopropylmethyl)-5-oxo-6,8-dihydro-5H-imidazo[1,2-c]pyrazolo[4,3-e]pyrimidin-9-yl]-1-methyl-1H-pyrrole-3-carbonitrile.

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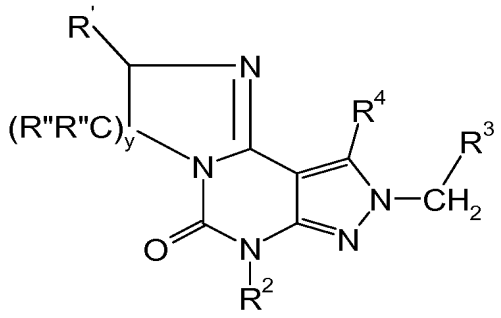
10. (Currently amended) A compound having the structural formula (II):



(II)

wherein,

R' is H, ~~optionally substituted~~ alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl;

R" is independently at each instance H, ~~optionally substituted~~ alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl;

y is 1 or 2;

R^2 is H, ~~optionally substituted~~ alkyl, wherein said alkyl is optionally substituted with 0, 1, 2 or 3 substituents selected from heterocycle, $S(=O)_nR^c$, $-S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl, ~~optionally substituted~~ alkylcycloalkyl, wherein said alkylcycloalkyl is optionally substituted with 0, 1, 2 or 3 substituents selected from heterocycle, $S(=O)_nR^c$, $-S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl, ~~optionally substituted~~ alkenyl, ~~optionally substituted~~ alkynyl, ~~optionally substituted~~ cycloalkyl, ~~optionally substituted~~ cycloalkenyl, ~~optionally substituted~~ cycloalkynyl, ~~optionally substituted~~ aryl, ~~optionally substituted~~ alkoxy, ~~optionally substituted~~ amino, or ~~optionally substituted~~ heterocycle;

R^3 is a monocyclic or bicyclic, saturated or unsaturated, ring system comprising 0, 1, 2 or 3 heteroatoms independently selected from N, O, or S, the ring being substituted by 0, 1, 2 or 3 substituents selected from =O, halogen, $-OR^a$, C_{1-6}alkyl, C_{1-6}haloalkyl, -CN, nitro, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-NR^aR^a$, $-NHC(=O)R^a$, $N=NR^a$, aminocarbonyl, phenyl, benzyl; or R^3 is represented by -Het, -Het-Het, R^5,$-R^5$-Het, -Het-R^5, -Het-O-R^5, $-R^5$-R^5, $-R^5$-OR^5;

R^4 is a monocyclic or bicyclic, saturated or unsaturated, ring system, or a vicinal-fused derivative thereof, which may contain from 5 to 12~~, preferably 5 to 10,~~ ring atoms, 0, 1, 2, 3 or 4 of which are heteroatoms independently selected from N, O, or S, the ring system being substituted by 0, 1, 2 or 3 substituents selected from $B(OH)_2$, vicinal $-OCH_2CH_2O-$, vicinal $-OC_{1-2}$haloalkylO-, vicinal $-OCH_2O-$, vicinal $-CH_2OCH_2O-$, =O, halogen, $-R^bOR^a$, $-SR^a$, $-OR^a$, C_{1-6}alkyl, C_{1-6}haloalkyl, -CN, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-NR^aR^a$, $-NHC(=O)R^a$, $-NHC(=O)OR^a$, $N=NR^a$, NO_2, $-C(=O)NR^aR^a$, $-C(=O)NR^aOR^a$, $-C(=O)NR^a(R^bNR^aR^a)$, $-C(=O)NR^a(R^bOR^a)$, $-C(=O)NR^a(R^bS(=O)_nR^a)$, $-C(=O)NR^a(R^bHet)$, $-C(=O)OR^a$, $-OC(=O)R^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-C(=O)R^bNR^aR^a$, $-C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-S(=O)_2NR^aR^a$, $-NR^aS(=O)_2R^a$, $-S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, $-S(=O)_2NR^a(R^bC(=O)OR^a)$, aminocarbonyl, phenyl, benzyl; or R^4 is represented by $-(CH_2)_nR^5$-Het, $-(CH_2)_nR^d$, -Het, -Het-Het, R^5, $-R^5$-Het, -Het-R^5, -Het-OR^5, R^5-R^5, or $-R^5$-OR^5; or R^4 is represented by C_{1-6}alky, $-NC_{1-6}$alkyl, or $-N(C_{1-6}alkyl)_2$ wherein the C_{1-6}alkyl, $-NC_{1-6}$alkyl, $-N(C_{1-6}$alkyl) are substituted by 0, 1 or 2 substituents selected from R^a, OR^a, halogen or phenyl wherein R^4 is not $-(CH_2)_zCH_3$, $-(CH_2)_zCH_2OH$, $-(CH_2)_zCO_2H$, or $-(CH_2)_zCO_2C_{1-6}$alkyl wherein z is 1,2,3,4,5, or 6;

R^5 is independently at each instance, phenyl substituted by 0, 1, 2, or 3 groups selected from halogen, C_{1-6}haloalkyl, $-OC_{1-6}$haloalkyl, C_{1-6}alkyl, -CN, nitro, $-OR^a$, $-S(=O)_nR^c$, $-O(CH_2)_mHet$, $-O(CH_2)_mC(=O)Het$, $-O(CH_2)_mC(=O)NR^aR^a$, $-O(CH_2)_mC(=O)OR^a$, $-O(CH_2)_mNR^aR^a$, $-O(CH_2)_mOR^a$, $-S(CH_2)_mHet$, $-S(CH_2)_mC(=O)Het$, $-S(CH_2)_mC(=O)NR^aR^a$, $-S(CH_2)_mC(=O)OR^a$, $-S(CH_2)_mNR^aR^a$, $-S(CH_2)_mOR^a$, $-R^bOR^a$, $-SR^a$, $-C(=O)NR^aR^a$, $-C(=O)NR^aOR^a$, $-C(=O)NR^aR^bNR^aR^a$, $-C(=O)NR^aR^bOR^a$, $-C(=O)NR^aR^bS(=O)_nR^a$, $-C(=O)NR^aR^bHet$, $-C(=O)OR^a$, $-OC(=O)R^a$, $-C(=O)OR^bNR^aR^a$, $-C(=O)R^a$, $-C(=O)R^bNR^aR^a$, $-C(=NOR^a)R^a$, $-C(=NCN)R^a$, $-S(=O)_2NR^aR^a$, $-NR^aS(=O)_2R^a$, $-S(=O)_2NR^aR^bC(=O)NR^aR^a$, or $-S(=O)_2NR^aR^bC(=O)OR^a$;

R^a is, independently at each instance, H, C_{1-6}alkyl, $-C(=O)C_{1-4}$alkyl, C_{1-4}haloalkyl, phenyl, benzyl, or 5 or 6-memebered ring, saturated or unsaturated heterocycle containing 1,2,3, or 4 heteroatoms independently selected from N, O or S;

R^b is, independently at each instance, C_{1-6}alkyl, $-C(=O)C_{1-4}$alkyl, C_{1-4}haloalkyl, phenyl, benzyl, or 5 or 6-memebered ring, saturated or unsaturated heterocycle containing 1,2,3, or 4 heteroatoms independently selected from N, O or S;

R^c is C_{1-6}alkyl, C_{1-4}haloalkyl, phenyl or benzyl;

R^d is phenyl substituted by 0, 1 or 2 groups selected from -CN, halogen, nitro, C_{1-6}alkyl, C_{1-4}haloalkyl, -OH, $-OR^c$, $-NR^aR^a$, $-S(=O)_nR^c$, $-C(=O)NR^aR^a$, $-C(=O)OR^a$,

-$NR^aC(=O)R^a$, -$OC(=O)R^a$, $B(OH)_2$, vicinyl -OCH_2CH_2O-, vicinyl -OC_{1-2}haloalkylO-, vicinyl -OCH_2O-, vicinyl -CH_2OCH_2O-, phenyl, benzyl and a 5- or 6-membered ring, saturated or unsaturated heterocycle containing 1, 2, 3 or 4 heteroatoms independently selected from N, O, or S;

m is 1, 2 or 3;

n is 0, 1 or 2;

or a pharmaceutically acceptable salt thereof.

11. (Original) A compound as recited in Claim 10 wherein:

R' is H, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl.

12. (Original) A compound as recited in Claim 10 wherein:

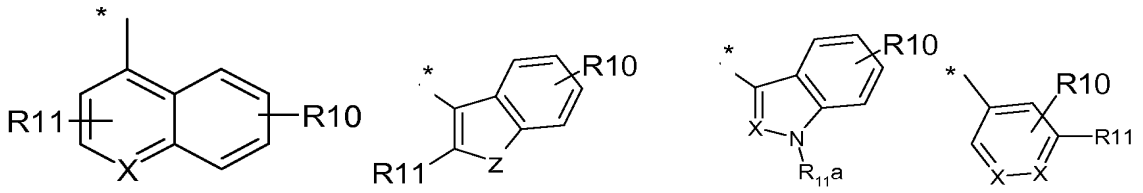
R" is independently at each instance H, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl.

13. (Cancelled) A compound as recited in Claim 10 wherein:

R^2 is C_{1-6}alkylC_{3-6}cycloalkyl or -C_{1-12}alkyl wherein either is optionally substituted with 0, 1, 2 or 3 substituents selected from Het, $S(=O)_nR^c$, $-S(=O)_nNR^aR^a$ halogen, -CN, $-OR^a$, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, or $-NR^aC(=O)C_{1-4}$alkyl and n is 0, 1 or 2.

14. (Original) A compound as recited in Claim 10 wherein:

R^3 is selected from formulas (i), (ii), (iii) or (iv) set forth below:



(i) (ii) (iii) (iv)

wherein * is the location where (i) or (ii) or (iii) or (iv) is attached to structural formula (I), and X is C or N; and Z is O or S, wherein R^{10} is at any position on the ring and R^{10} and R^{11} are independently at each instance H, R^a, halogen, -CN, nitro, OR^a, CF_3, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, $-NR^aC(=O)C_{1-4}$alkyl or $-S(=O)_nR^c$; and wherein R^{11a} is R^a, $-S(=O)_2NR^aR^a$ or $-S(=O)_nR^c$ and n=1 or 2.

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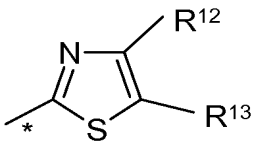
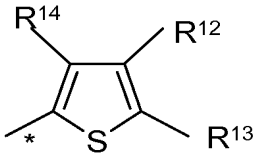
15. (Original) A compound as recited in Claim 10 wherein:

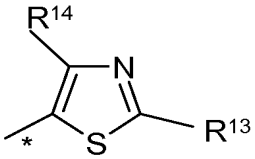
R^4 is selected from formulas (a) to (z) or (aa) or (ab) set forth below:



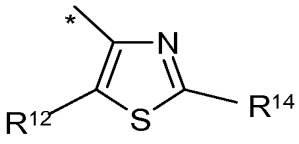
(a)



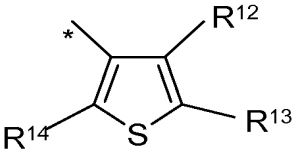
(b)



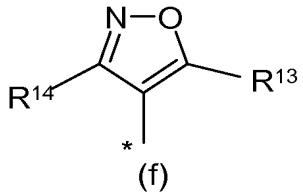
(c)



(d)



(e)



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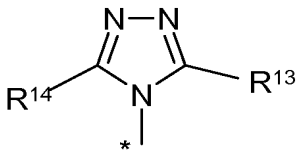
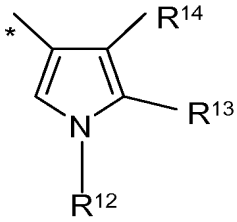
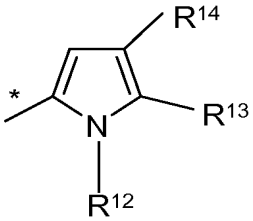


(g)



(h)



(i)

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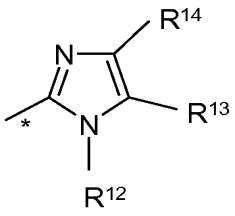
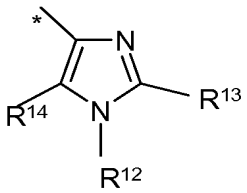
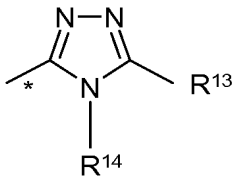


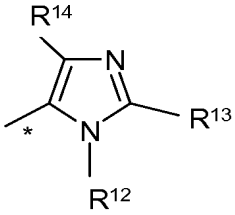
(j)



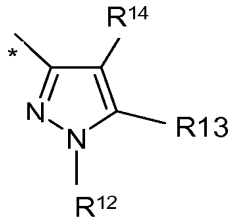
(k)



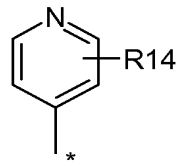
(l)



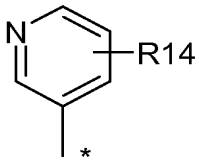
(m)



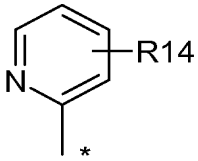
(n)



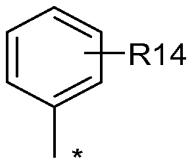
(o)



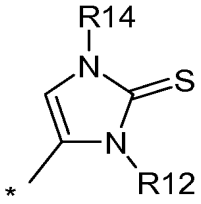
(p)



(q)



(r)



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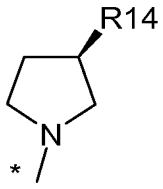
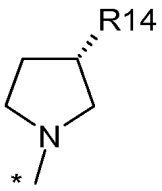
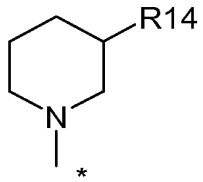


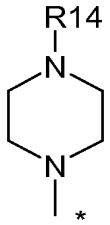
(t)



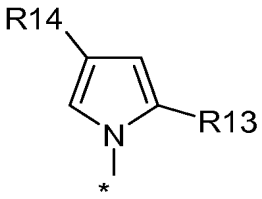
(u)



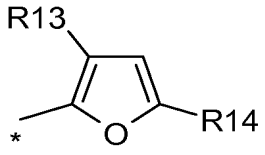
(v)



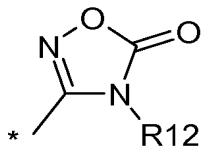
(w)



(x)



(y)



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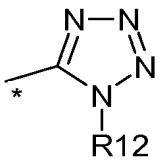
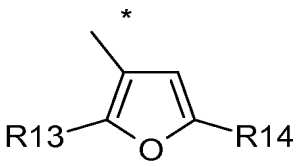


(aa)



(ab)

wherein * is the location wherein R^4 is attached to the ring system and wherein wherein R^{12}, R^{13} and R^{14} are each independently represented by H, Het, C_{1-6}alkyl, -CN, -NR^aR^a, -nitro, -$C(=O)R^a$, -$C(=O)NR^aR^a$, -$C(=O)NR^aS(=O)_2R^a$, -$C(=O)NR^a$-Het, -$C(=O)NR^aNR^aR^a$, -$C(=O)NR^a(R^bNR^aR^a)$, -$C(=O)NR^a(R^bOR^a)$, -$C(=O)NR^a(R^bS(=O)_2R^a)$, -$C(=O)NR^aR^b$Het, -$C(=O)NR^aOR^a$, -$C(=O)R^bNR^aR^a$, -$C(=NOR^a)R^a$, -$C(=NCN)R^a$, -$C(=O)OR^a$, -$C(=O)OR^bNR^aR^a$, -$C(=O)R^a$, –$OC(=O)R^a$, -$C(=O)R^a$-SR^a, =S, -$NR^aC(=O)R^a$, -$NR^aC(=O)OR^a$, -$NR^aS(=O)_2R^b$, -$C(=NOR^a)R^a$, -$S(=O)_2R^a$, -$S(=O)_2NR^aR^a$, -$S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, or -$S(=O)_2NR^a(R^bC(=O)OR^a$.

16. (Original) A compound as recited in Claim 10 wherein:

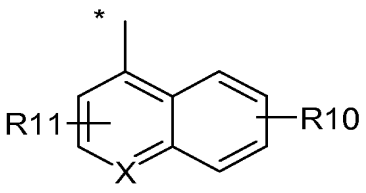
R' is H, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl;

R" is independently at each instance H, C_{1-6}alkyl, C_{1-6}alkenyl, C_{1-6}alkynyl;

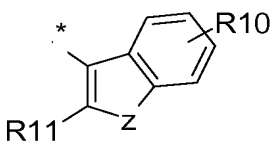
y is 1;

R^2 is -$CH_2CH_2CH_3$, -CH_2-cyclopropyl, -$CH_2CH(CH_3)_2$, -$CH_2CH_2CH_2F$, -CH_2-cyclobutyl, -$CH_2C(CH_3)_3$, -$CH_2CH_2CH(CH_3)_2$, -CH_2CF_3, -CH_2-methylphenyl, -CH_2-phenol, -CH_2-(3,5-dimethylisoxazol-4-yl), -CH_2-S-phenyl, -CH_2-phenylcarboxyl, or -CH_2SCF_3;

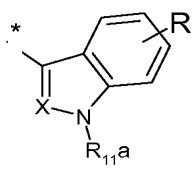
R^3 is selected from formulas (i), (ii), (iii) or (iv) set forth below:



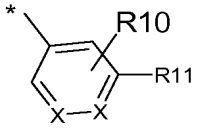
(i)



(ii)



(iii)



(iv)

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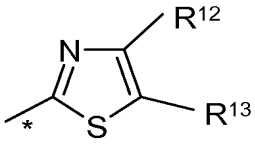
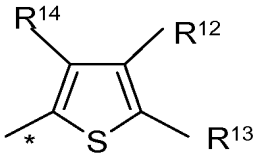
wherein * is the location where (i) or (ii) or (iii) or (iv) is attached to structural formula (I), and X is C or N; and Z is O or S, wherein R^{10} is at any position on the ring and R^{10} and R^{11} are independently at each instance H, R^a, halogen, -CN, nitro, OR^a, CF_3, $-NR^aR^a$, $-C(=O)OR^a$, $-C(=O)R^a$, $-C(=O)NR^aR^a$, $-OC(=O)C_{1-4}$alkyl, $-NR^aC(=O)C_{1-4}$alkyl or $-S(=O)_nR^c$; and wherein R^{11a} is R^a, $-S(=O)_2NR^aR^a$ or $-S(=O)_nR^c$ and n=1 or 2;

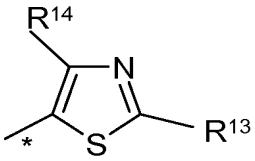
R^4 is selected from formulas (a) to (z) or (aa) or (ab) set forth below:



(a)

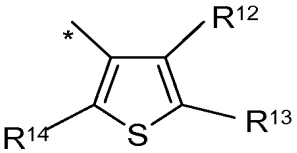


(b)

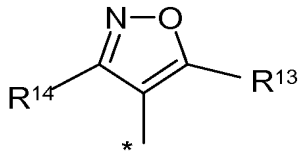


(c)

(d)



(e)



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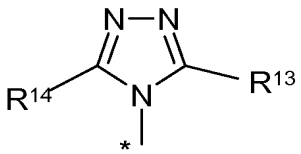
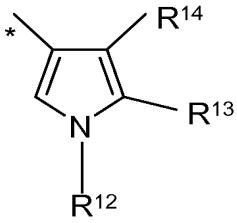


(g)



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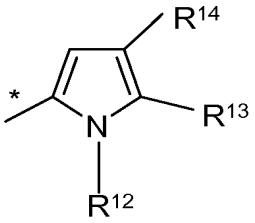

(i)

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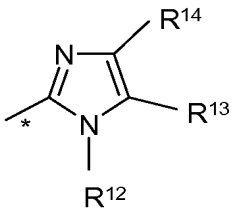
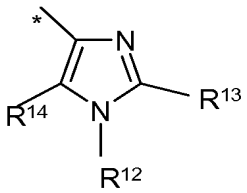
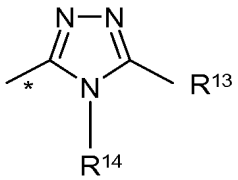


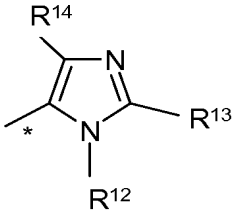
(j)



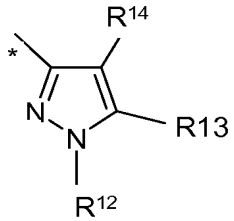
(k)



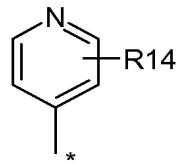
(l)



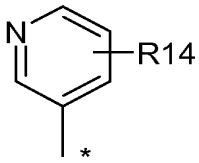
(m)



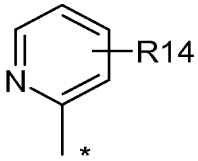
(n)



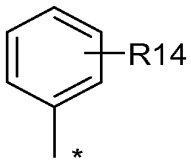
(o)



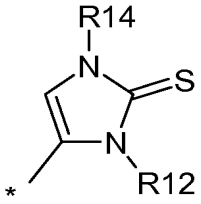
(p)



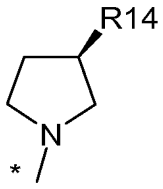
(q)



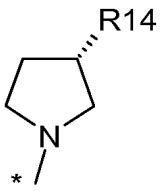
(r)



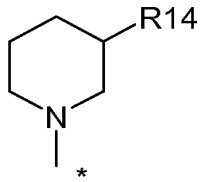
(s)



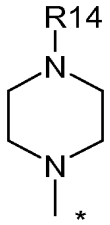
(t)



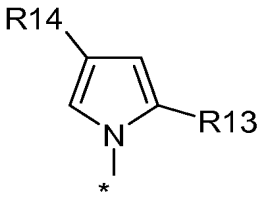
(u)



(v)



(w)



(x)

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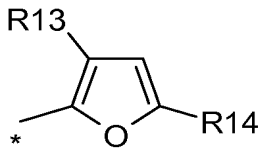
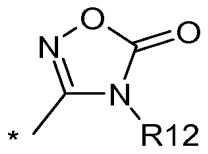
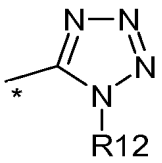


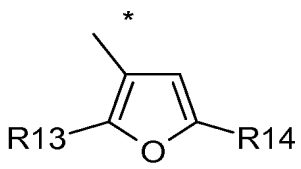
(y)



(z)



(aa)



(ab)

wherein * is the location wherein R^4 is attached to the ring system and wherein wherein R^{12}, R^{13} and R^{14} are each independently represented by H, Het, $C_{1\text{-}6}$alkyl, -CN, -NR^aR^a, -nitro, -$C(=O)R^a$, -$C(=O)NR^aR^a$, -$C(=O)NR^aS(=O)_2R^a$, -$C(=O)NR^a$-Het, -$C(=O)NR^aNR^aR^a$, -$C(=O)NR^a(R^bNR^aR^a)$, -$C(=O)NR^a(R^bOR^a)$, -$C(=O)NR^a(R^bS(=O)_2R^a)$, -$C(=O)NR^aR^b$Het, -$C(=O)NR^aOR^a$, -$C(=O)R^bNR^aR^a$, -$C(=NOR^a)R^a$, -$C(=NCN)R^a$, -$C(=O)OR^a$, -$C(=O)OR^bNR^aR^a$, -$C(=O)R^a$, –$OC(=O)R^a$, -$C(=O)R^a$-SR^a, =S, -$NR^aC(=O)R^a$, -$NR^aC(=O)OR^a$, -$NR^aS(=O)_2R^b$, -$C(=NOR^a)R^a$, -$S(=O)_2R^a$, -$S(=O)_2NR^aR^a$, -$S(=O)_2NR^a(R^bC(=O)NR^aR^a)$, or -$S(=O)_2NR^a(R^bC(=O)OR^a$.

17. (Previously presented) A compound of claim 1 selected from:
5-{8-[(6-chloroquinolin-4-yl)methyl]-6-isobutyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl}-1-methyl-1*H*-pyrrole-3-carbonitrile;5-{8-[(6-chloroquinolin-4-yl)methyl]-6-isobutyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl}-1-methyl-1*H*-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-methyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl]-1-methyl-1*H*-pyrrole-3-carbonitrile;
5-[8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-2-methyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl]-1-methyl-1*H*-pyrrole-3-carbonitrile;
5-[(3*R*)-8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-methyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl]-1-methyl-1*H*-pyrrole-3-carbonitrile;
5-[(3S)-8-[(6-chloroquinolin-4-yl)methyl]-6-(cyclopropylmethyl)-3-methyl-5-oxo-2,5,6,8-tetrahydro-3*H*-imidazo[1,2-*c*]pyrazolo[4,3-*e*]pyrimidin-9-yl]-1-methyl-1*H*-pyrrole-3-carbonitrile;

5-[9-[(6-chloroquinolin-4-yl)methyl]-7-(cyclopropylmethyl)-6-oxo-2,3,4,6,7,9-hexahydropyrazolo[4,3-*e*]pyrimido[1,2-*c*]pyrimidin-10-yl]-1-methyl-1*H*-pyrrole-3-carbonitrile.

18. (Cancelled).

19. (Cancelled).

20. (Previously presented) A method for the treatment of infections associated with *H. pylori* comprising administering to a host in need of such treatment a therapeutically effective amount of a compound as defined in claim 1.

21. (Previously presented) A method for the prophylaxis treatment of infections associated with *H. pylori* comprising administering to a host in need of such treatment a therapeutically effective amount of a compound as defined in claim 1.

22. (Previously presented) A method for the treatment or prophylaxis of *H. pylori* infection comprising administering a therapeutically effective amount of a compound as defined in claim 1 or a pharmaceutically acceptable salt thereof.

23. (Previously presented) A pharmaceutical composition comprising a compound as defined in claim 1 together with at least one pharmaceutically acceptable carrier, diluent or excipent.